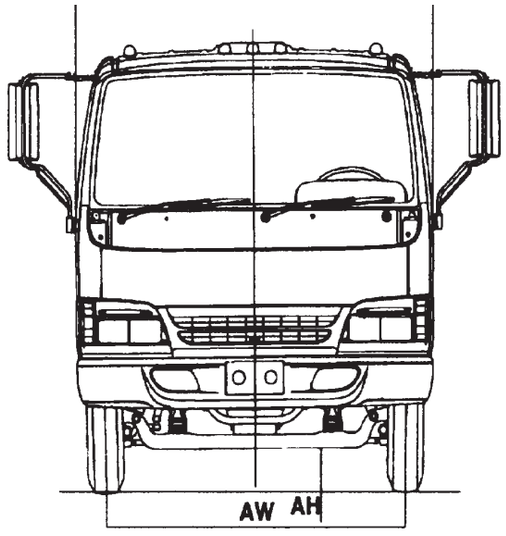
W3500/W4500 GAS

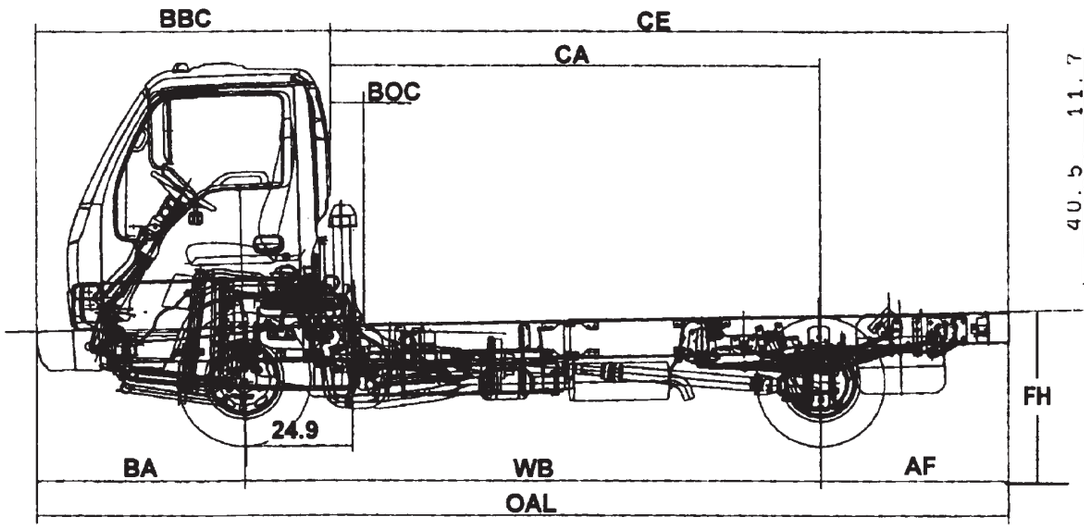
SPECIFICATIONS

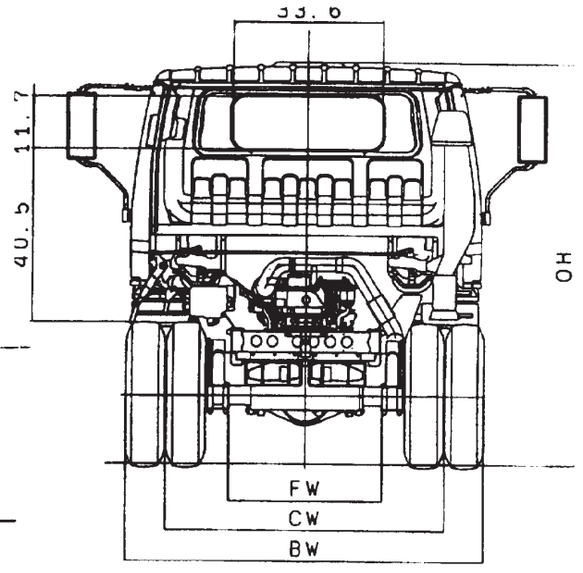
Model	W3500 Gas	W4500 Gas
GVWR	11,050 lb.	14,050 lb.
WB	109 in./132.5 in./150 in./176 in.	
Engine	GMPT 8-cylinder, V Block 4-cycle, OHV, water cooled, Sequential Port Fuel Injection	
Model/Displacement	GMPT-V8/350 CID (5.7 liters)	
HP (Gross)	250 HP @ 4200 rpm	
Torque (Gross)	330 lb-ft torque @ 2800 rpm	
Equipment	Sequential Port Fuel Injection (SFI), mass air flow meter, powertrain control module (VCM), onboard diagnostics, oxygen sensors, catalytic convertor, map sensor with external oil cooler	
Transmission	4L80-E Hydra-Matic 4-speed automatic with lock-up converter and overdrive	
Steering	Integral power steering 20.9:1 ratio. Tilt and telescoping steering column.	
Front Axle	Reverse Elliot “I” Beam rated at 6,830 lb.	
Suspension	Semi-elliptical steel alloy leaf springs with stabilizer bar and shock absorbers.	
GAWR	4700 lb.	5360 lb.
Rear Axle	Full floating single speed with hypoid gearing rated at 11,020 lb.	
Suspension	Semi-elliptical steel alloy leaf springs and shock absorbers.	
GAWR	7950 lb.	9880 lb.
Wheels	16 x 6.0 6–hole disc wheels, painted white.	19.5 x 6.0 6–hole disc wheels, painted white.
Tires	215/85R-16E (10 pr) tubeless steel belted radials, all season tread front and rear.	225/70R-19.5F (12 pr) tubeless steel belted radials, premium highway tread front and rear.
Brakes	Dual circuit vacuum assisted hydraulic service brakes with load sensing proportioning valve in rear brake circuit and a metering valve between the master cylinder and 6-way joint on the front brake lines. Disc front and self-adjusting outboard mounted drum rear. The parking brake is a mechanical, cable actuated, internal expanding drum type, transmission mounted.	
Fuel Tank	32.1 gal. rectangular steel fuel tank. Mounted between the frame rails with electric type fuel pump (mounted in tank.)	
Frame	Ladder type channel section straight frame rail 33.5 in. wide through the total length of the frame. Yield strength 44,000 psi section modulus 7.20 in^3. RBM 316,800.	
Cab	All steel low cab forward, BBC 68.0 in., 45° mechanical tilt with torsion assist.	
Equipment	Jersey knit covered high back driver’s seat with two occupant passenger seat. Two-way roof ventilator, dual cab mounted exterior mirrors. Tilt and telescoping steering column. Tinted glass.	
Electrical	12 Volt, negative ground, Delco maintenance free battery (located under cab), 630 CCA, 80 Amp alternator with integral regulator.	
Options	Air Conditioning; AM/FM cassette stereo radio; spare wheel; 6” stainless steel mirrors.	

NOTE: These selected specifications are subject to change without notice.

VEHICLE WEIGHTS, DIMENSIONS AND RATINGS







W3500/W4500 GAS

Variable Chassis Dimensions					
Unit	**WB**	**CA***	**CE***	**OAL**	**AF**
Inch	109.0	88.4	131.5	199.5	43.1
Inch	132.5	111.9	155.0	223.0	43.1
Inch	150.0	129.4	172.5	240.5	43.1
Inch	176.0	155.4	198.5	266.3	43.1

* Effective CA & CE are CA or CE less BOC.

Dimension Constants 11,050 GVW					
Code	**Inches**	**Code**	**Inches**	**Code**	**Inches**
AH	7.9	BW	83.3	FH	32.0*
AW	65.6	CW	65.0		
BA	47.4	FW	33.5		
BBC	68.0	OH	87.4		
BOC	9.25	OW	78.5		

* 32.75 for 14,050 GVWR

11,050 lb. GVWR with 4L80-E Hydra-Matic Transmission Model Federal						
Chassis Cab and Maximum Payload Weights						
Model	**WB**	**Unit**	**Front**	**Rear**	**Total**	**Payload**
JB1	109.0 in.	lb.	3,153	1,742	4,895	6,155
JB2	132.5 in.	lb.	3,197	1,764	4,961	6,089
JB3	150.0 in.	lb.	3,219	1,786	5,005	6,045
JB4	176.0 in.	lb.	3,263	1,808	5,071	5,979

11,050 lb. GVWR with 4L80-E Hydra-Matic Transmission Model California						
Chassis Cab and Maximum Payload Weights						
Model	**WB**	**Unit**	**Front**	**Rear**	**Total**	**Payload**
HB1	109.0 in.	lb.	3,153	1,742	4,895	6,155
HB2	132.5 in.	lb.	3,197	1,764	4,961	6,089
HB3	150.0 in.	lb.	3,219	1,786	5,005	6,045
HB4	176.0 in.	lb.	3,263	1,808	5,071	5,979

Dimension Constants 14,050 GVW					
Code	**Inches**	**Code**	**Inches**	**Code**	**Inches**
AH	8.6	BW	84.0	FH	32.7
AW	65.6	CW	65.0		
BA	47.4	FW	33.5		
BBC	68.0	OH	88.1		
BOC	9.25	OW	78.5		

14,050 lb. GVWR with 4L80-E Hydra-Matic Transmission Model California/Federal						
Chassis Cab and Maximum Payload Weights						
Model	**WB**	**Unit**	**Front**	**Rear**	**Total**	**Payload**
KE1	109.0 in.	lb.	3,230	1,874	5,104	8,946
KE2	132.5 in.	lb.	3,274	1,896	5,170	8,880
KE3	150.0 in.	lb.	3,296	1,918	5,214	8,836
KE4	176.0 in.	lb.	3,340	1,940	5,280	8,770

Vehicle Weight Limits:

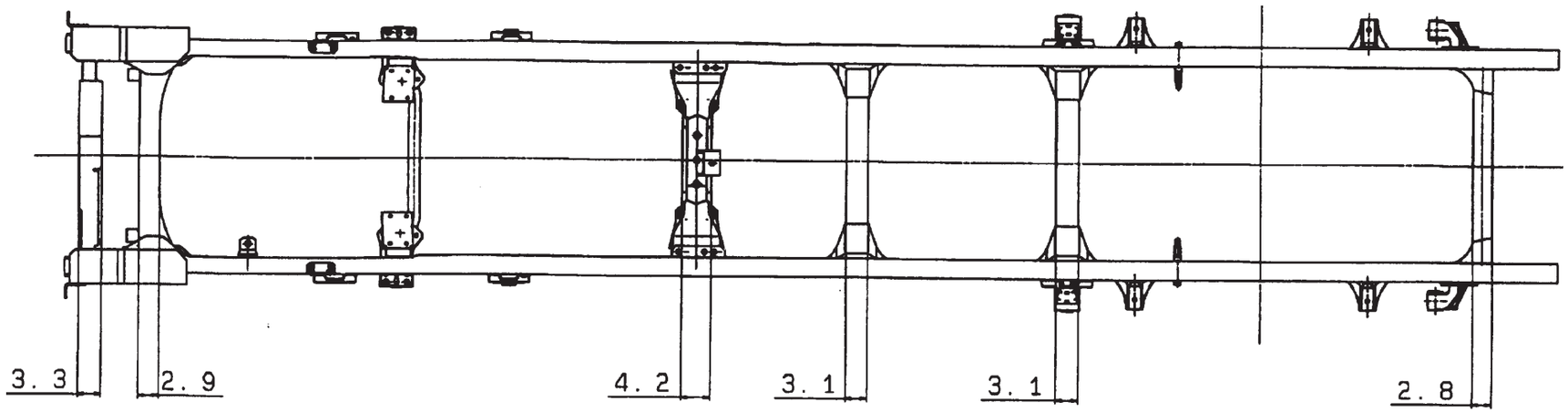
GVWR		
Designed Maximum	11,050 lb.	14,050 lb.
GAWR, Front	4,700 lb.	5,360 lb.
GAWR, Rear	7,950 lb.	9,880 lb.

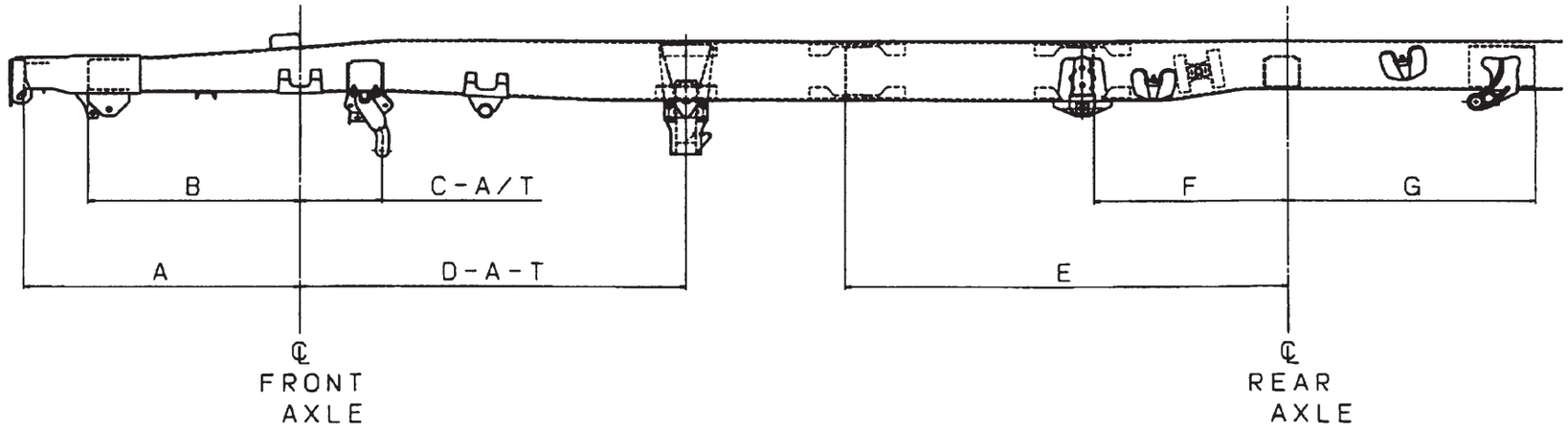
Technical Notes:

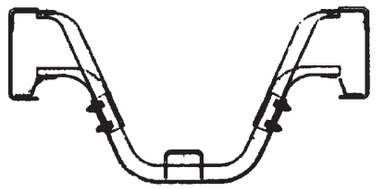
Chassis Curb Weight reflects standard equipment and fuel, but no driver or payload.

Maximum Payload Weight is the allowed maximum for equipment, body, payload and driver and is calculated by subtracting chassis curb weight from the GVWR.

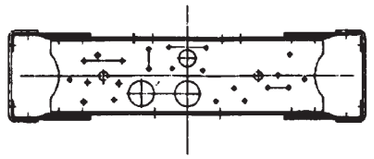
FRAME & CROSSMEMBER SPECIFICATIONS



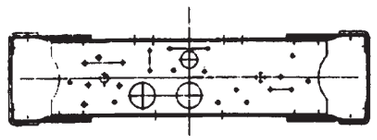




Type AA



Type BB



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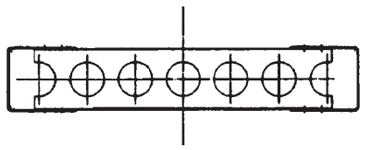
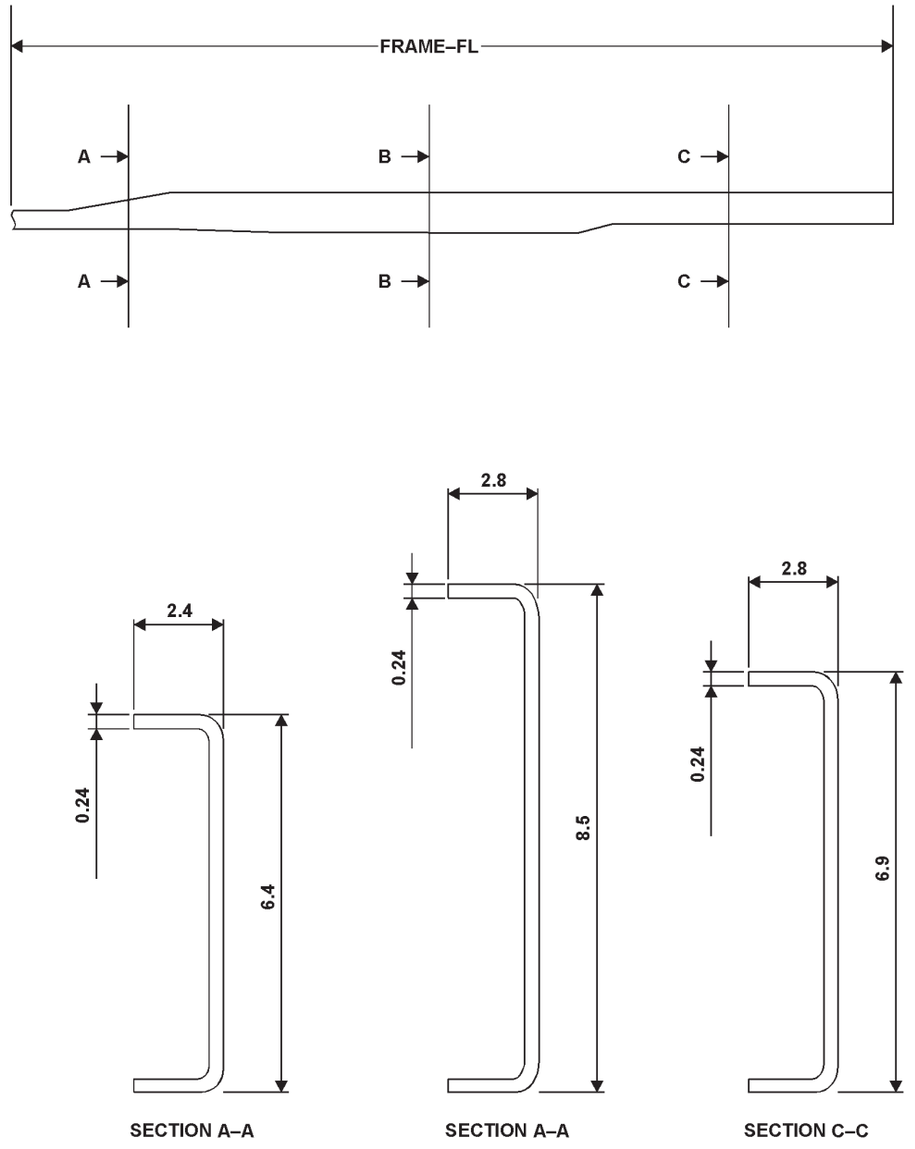


Type DD

Model	Wheel Base	Frame Thick	Cross Member Type/Location						
			A	B	C-Auto. Trans.	D-Auto. Trans.	E	F	G
W3500/W4500	109	0.24	37.0	28.3	11.1	AA 52.0	—	CC 26.0	DD 33.0
W3500/W4500	132.5	0.24	37.0	28.3	11.1	AA 52.0	BB 59.4	CC 26.0	DD 33.0
W3500/W4500	150.0	0.24	37.0	28.3	11.1	AA 52.0	BB 59.4	CC 26.0	DD 33.0
W3500/W4500	176.0	.024	37.0	28.3	11.1	52.0	59.4	26.0	33.0

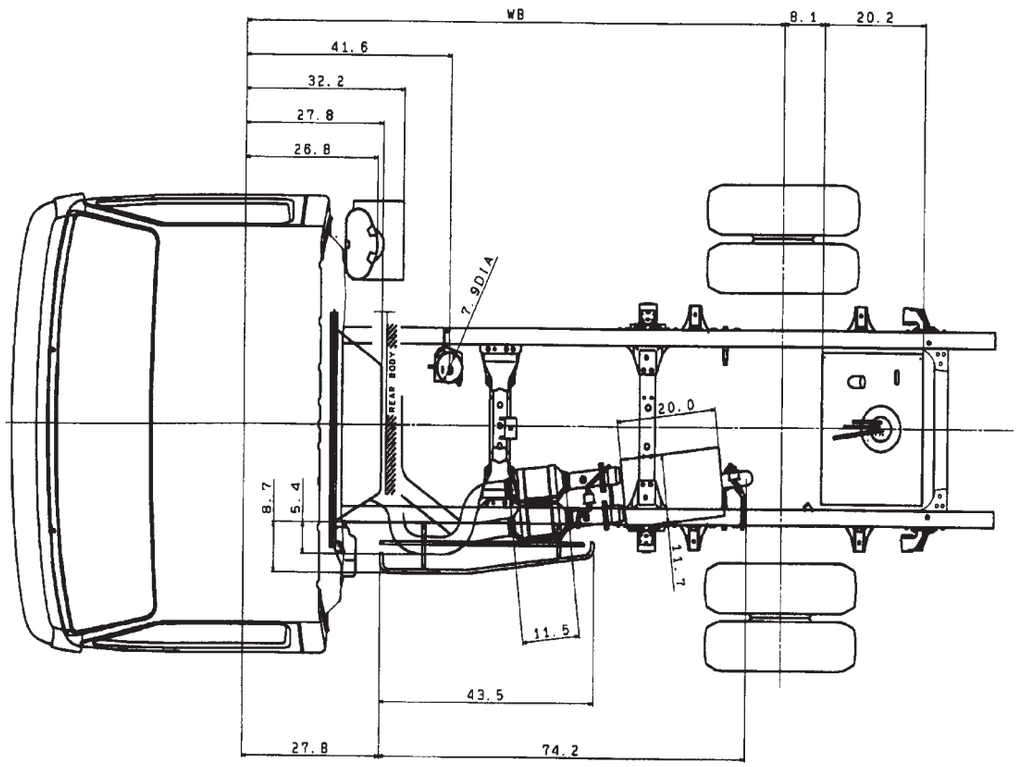
FRAME CHART

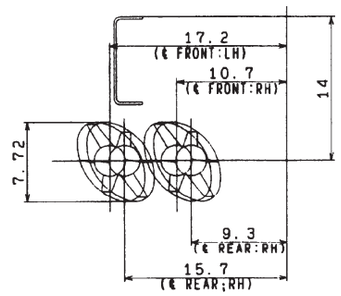


Vehicle Model	Wheel Base	Frame FL	Frame Thickness
W3500/W4500	109.0	186.0	0.24
W3500/W4500	132.5	209.6	0.24
W3500/W4500	150.0	227.4	0.24
W3500/W4500	176.0	253.4	0.24

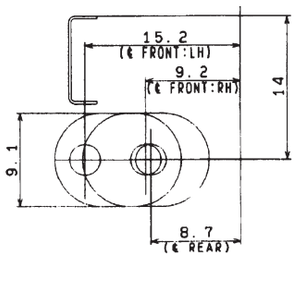
W3500/W4500 GAS

AUXILIARY VIEWS

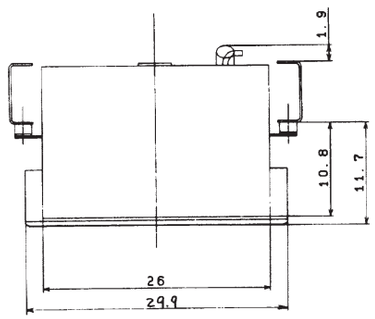




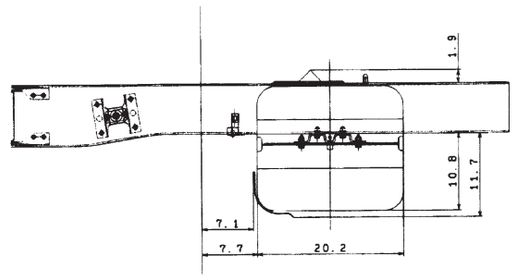
Catalitic Converters



Muffler



Fuel Tank Rear View

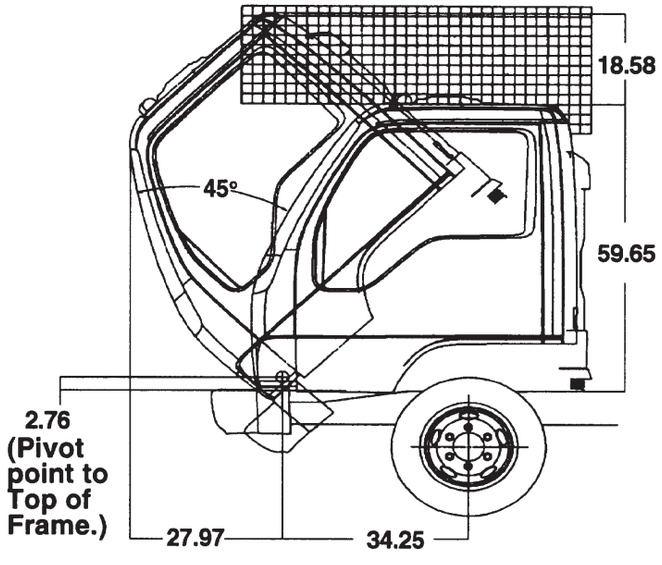


Fuel Tank Side View

BODY BUILDER WEIGHT INFORMATION CHART

GVWR	Axle	Wheel Base				Unsprung Weight
		109 in.	132.5 in.	150 in.	176 in.	
		Auto. Trans.	Auto. Trans.	Auto. Trans.	Auto. Trans..	
11,050	Front	3,153	3,197	3,219	3,263	573
	Rear	1,742	1,764	1,786	1,808	871
	Total	4,895	4,961	5,005	5,071	1,444
14,050	Front	3,230	3,274	3,296	3,340	705
	Rear	1,874	1,896	1,918	1,940	1,134
	Total	5,104	5,170	5,214	5,280	1,839

Cab Tilt



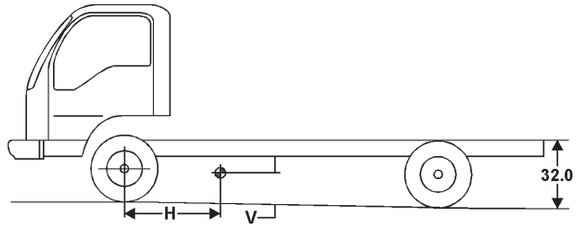
GRID SCALE:
One square is 2 in x 2 in

NOTE: Roof vent adds 1.5 inches to overall cab height.

RADIUS FROM PIVOT TO OUTER EXTENT OF CAB:
Radius = 79.02

Center of Gravity

GVWR	WB	V	H Auto. Trans.
11,050	109	21.7	38.8
	132.5	20.1	47.1
	150	19.7	53.5
	176	18.1	62.8
14,050	109	21.7	40.0
	132.5	20.0	48.6
	150	19.7	55.2
	176	18.1	64.7

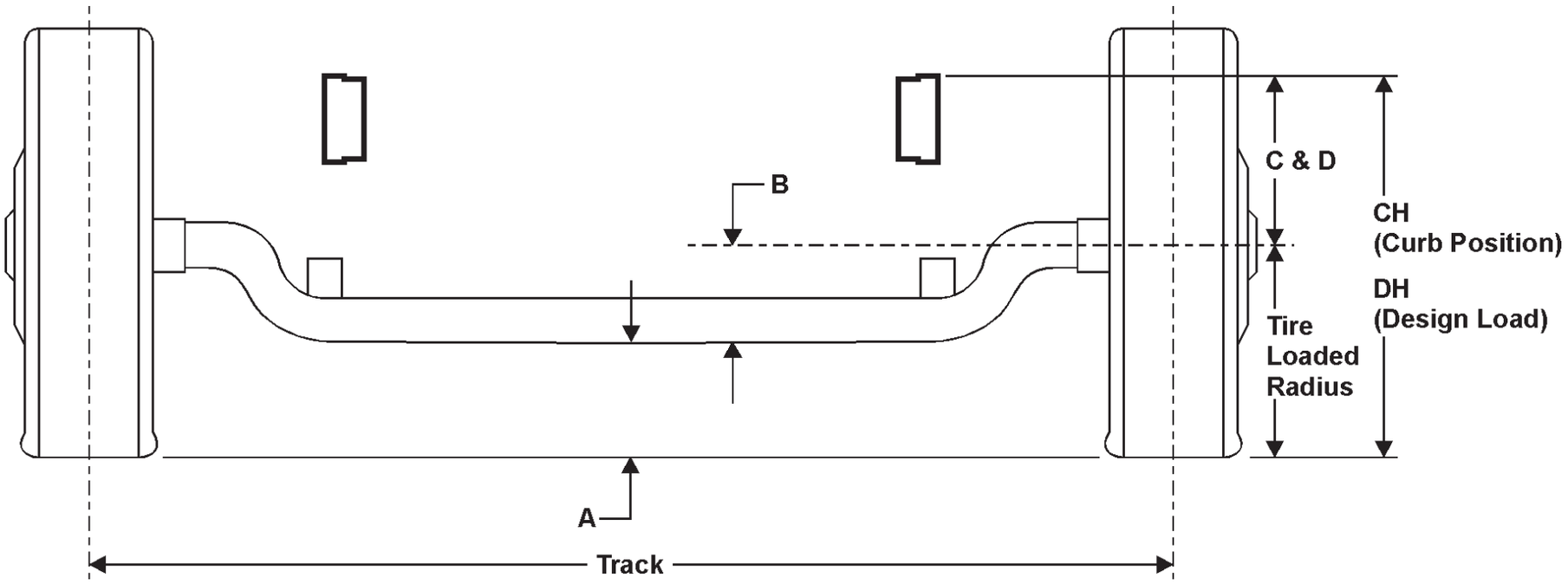


V = Vertical Center of Gravity
H = Horizontal Center of Gravity

The center of gravity of the completed vehicle with a full load should not exceed 54 inches above ground level for the 11,050 lb. GVWR, 58 inches above ground level for the 14,050 lb. GVWR, and must be located horizontally between the centerlines of the front and rear axles.

NOTE: The maximum dimensions for a body installed on the W3500/W4500 Gas is 96 inches wide (outside) by 90 inches high (inside). Any larger body applications must be approved by GM/Isuzu Application Engineering. In the West Coast call 1-562-699-0500, extension 2385 and in the East Coast call 1-770-475-9195 extension 353.

FRONT AXLE CHART

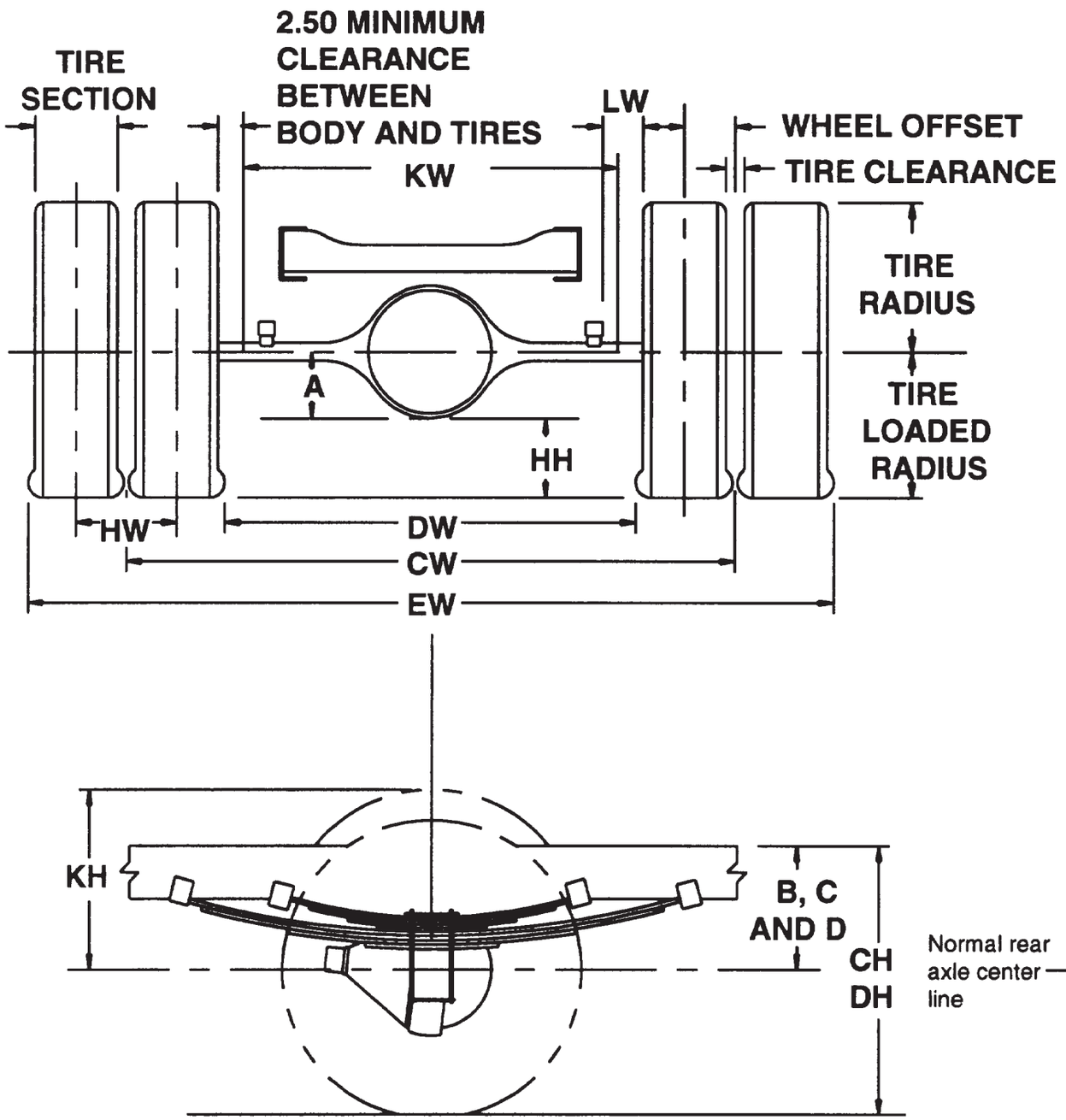


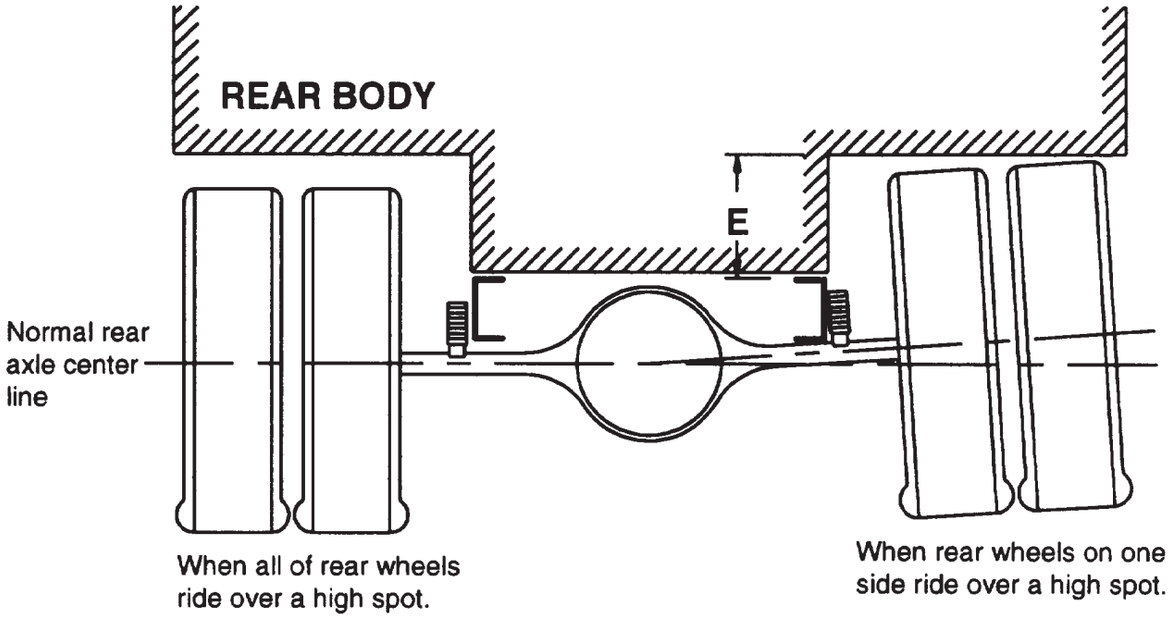
Formulas for calculating height dimensions

A = Tire Loaded Radius–B
C = Centerline of Axle to Top of Frame Rail at Curb Position
D = Centerline of Axle to Top of Frame Rail at Design Load
CH = C + Tire Unloaded Radius
DH = D + Tire Loaded Radius

Tire	GVWR	GAWR	A	B	C	D	CH	DH	Track	Tire Radius	
										Unload	Load
215/85R 16-E	11,050 lb.	4,700 lb.	7.7	6.4	13.0	12.5	27.3	26.6	65.6	15.2	14.1
225/70R 19.5	14,050 lb.	5,360 lb.	8.4	7.0	13.6	13.1	29	28.1	65.6	15.4	15

REAR AXLE CHART




REAR BODY
E
Normal rear axle center line
When all of rear wheels ride over a high spot.
When rear wheels on one side ride over a high spot.

Definitions			
A	Center line of axle to bottom of axle bowl.	DW	Minimum distance between the inner surfaces of the rear tires.
B	Center line of axle to top of frame rail at metal to metal position.	EW	Maximum Rear Width: Overall width of the vehicle measured at the outer most surface of the rear tires.
C	Center line of axle to top of frame rail at curb position.	HH	Rear Tire Clearance: Minimum clearance between the rear axle and the ground-line.
D	Center line of axle to top of frame rail at design load.	HW	Dual Tire Spacing: Distance between the center lines of the minimum distance required for tire bounce as measured from the center line of the rear axle and the top of the rear tire when one wheel rides over a high spot.
E	Rear Tire Clearance: Minimum clearance required for tires and chain measured from the top of the frame at the vertical center line of the rear axle, when rear wheels on one side ride over a high spot.	KH	Tire Bounce Clearance: Minimum distance required for tire bounce as measured from the center line of the rear axle and the top of the rear tire when one wheel rides over a high spot.
CH	Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the center line of the rear axle at curb position.	CW	Track Dual Rear Wheel Vehicles: Distance between the center lines of the dual wheels measured at the ground-line.
DH	Rear Frame Height: Vertical distance between the normal top of frame rail and the ground-line through the center line of the rear axle at design load.		
	Tire Section Tire Radius Tire Loaded Radius Tire Clearance	See Tire Chart for Values	

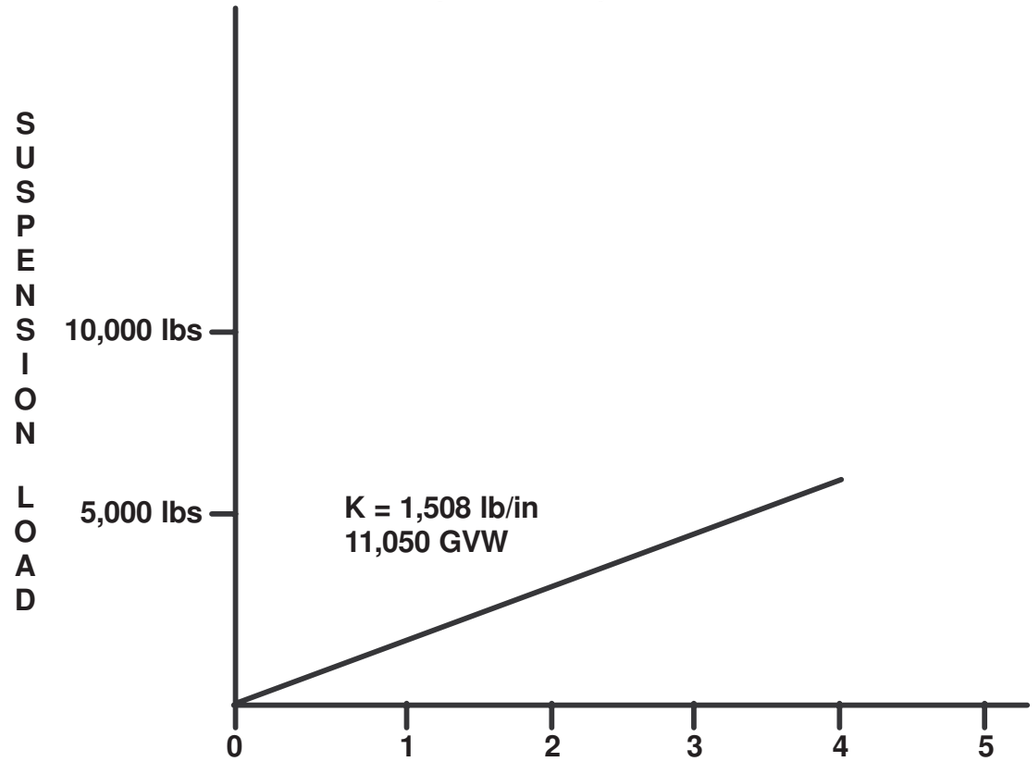
Formulas for Calculating Rear Width and Height Dimensions			
CW	= Track	HH	= Tire loaded radius – A
CH	= Tire loaded radius + C	JH	= KH – B
DH	= Tire loaded radius + D	KH	= Tire radius + 3.00 inches
DW	= Track + 2 tire sections – tire clearance	KW	= DW – 5.00 inches
EW	= Track + 2 tire sections + tire clearance	LW	= 1.00 inch minimum clearance between tires and springs

NOTE: Track and overall width may vary with optional equipment.

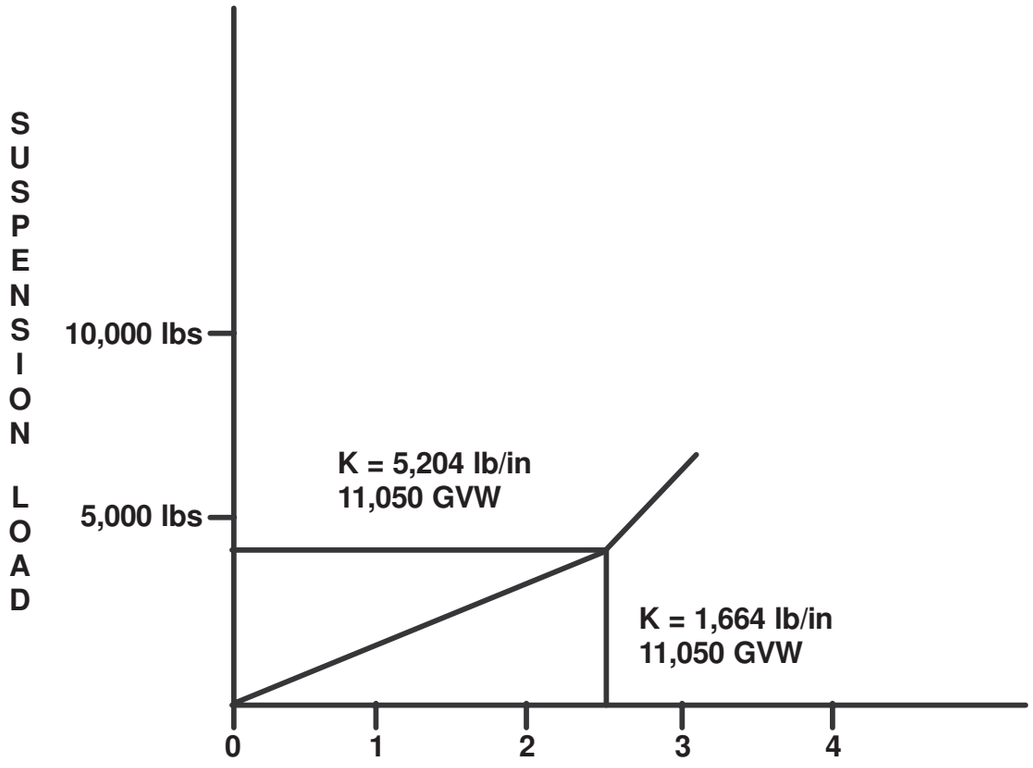
Tire	GAWR	Track CW	A	B	C	D	E
215/85R16-E	7950/8760 lb.	65.0	6.5	10.6	14.9	13.3	7.8
225/70R19.5	7950/9880 lb.	65.0	11.6	10.6	14.9	13.0	8.4

SUSPENSION DEFLECTION CHARTS FOR W3500

Front Leaf Spring Load vs. Deflection (Per Axle)

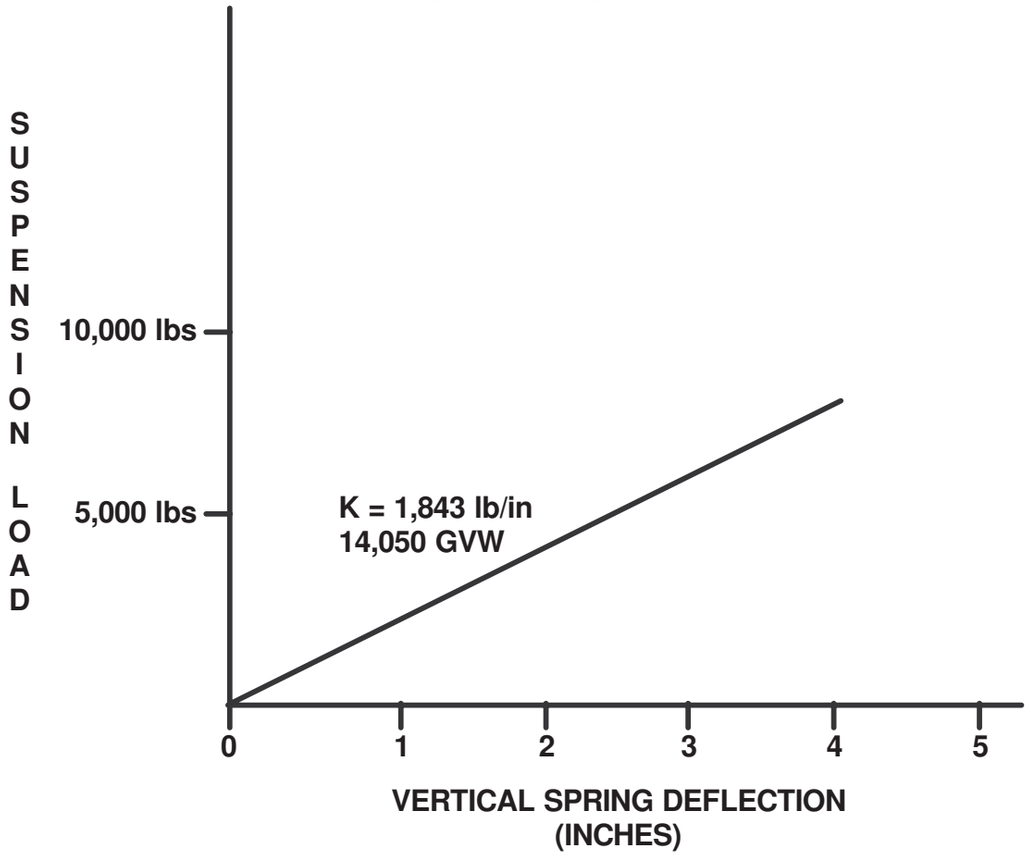


Rear Leaf Spring Load vs. Deflection (Per Axle)

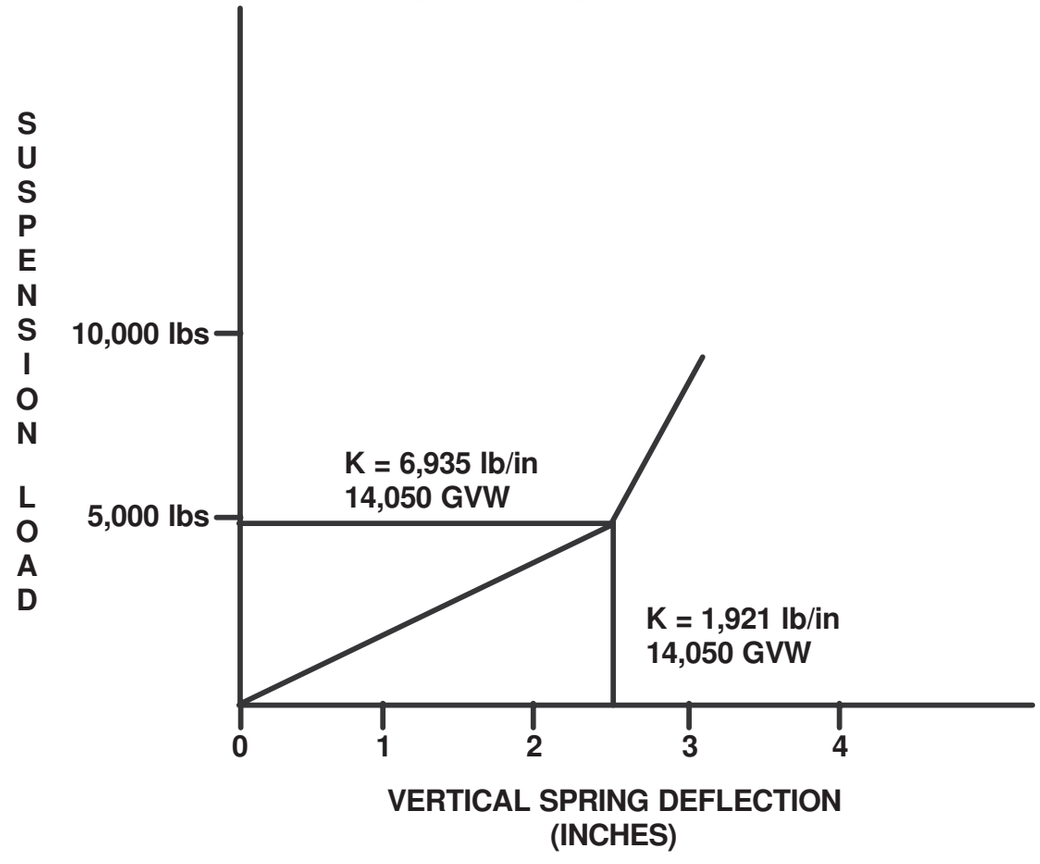


SUSPENSION DEFLECTION CHARTS FOR W4500

Front Leaf Spring Load vs. Deflection (Per Axle)



Rear Leaf Spring Load vs. Deflection (Per Axle)



TIRE AND DISC WHEEL CHART

Tire

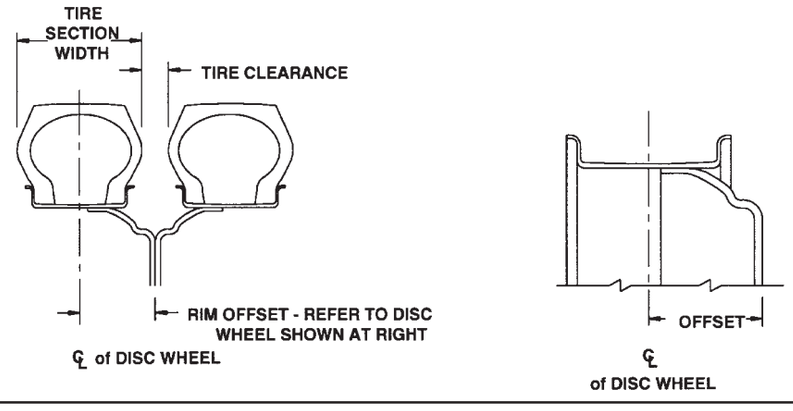
Tire Size	Tire Load Limit and Cold Inflation Pressures				Maximum Tire Load Limits		GVWR (Lb)
	Single		Dual		Front	Rear	
	Lb	PSI	Lb	PSI	2 Single	4 Dual	
215/85R 16-E	2430	70	2210	70	4860	8840	11,050
225/70R 19.5	3315	85	3115	85	6630	12460	14,050

Tire Size	GVWR (Lb)	Tire Radius				Tire Section Width	Tire Clearance	Design Rim Width
		Loaded		Unloaded				
		Front	Rear	Front	Rear			
215/85R 16-E	11,050	14.05	14.05	15.21	15.21	8.54	1.46	6.0
225/70R 19.5	14,050	15.00	15.20	15.40	15.80	8.8	1.2	6.0

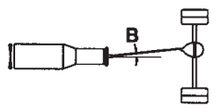
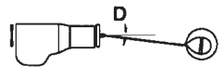
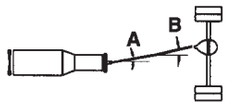
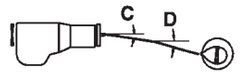
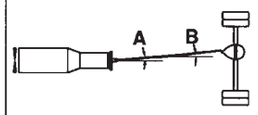
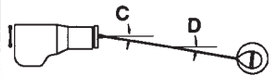
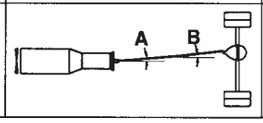
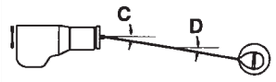
Disc Wheel

Wheel Size	Bolt Holes	Bolt Circle Dia.	Ft./Rr Nut Size*	Rear Stud Size*	Nut/Stud Torque Specs.	Inner Circle	Outside Offset	Disc Thickness	Rim Type	Material Mfg.
16 x 6.00K	6 JIS	8.75	1.6142 (41 mm) BUD HEX	0.8268 (21 mm) SQUARE	289 ft-lb (392 N•m)	6.46	5.0	0.35	5° DC	Steel TOPY
19.5 x 6.00	6 JIS	8.75	1.6142 (41 mm) BUD HEX	0.8268 (21 mm) SQUARE	325 ft-lb (440 N•m)	6.46	5.0	0.39	5° DC	Steel TOPY

* O.D. Wrench Sizes



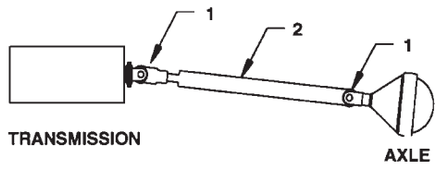
PROPELLER SHAFT

WB	PLANE VIEW	SIDE VIEW
109 in		
132.5 in		
150 in		
176 in		

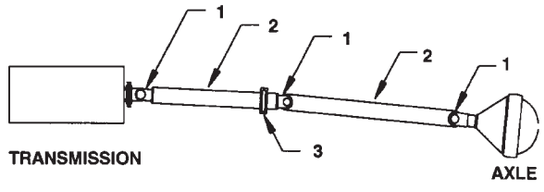
TYPICAL INSTALLATIONS SHOWING YOKES "IN PHASE". "IN PHASE" MEANS THAT THE YOKES AT EITHER END OF A GIVEN PROPELLER SHAFT ASSEMBLY ARE IN THE SAME PLANE.

NPR EFI

(109 in WB)



(132.5 in, 150 in and 176 in WB)

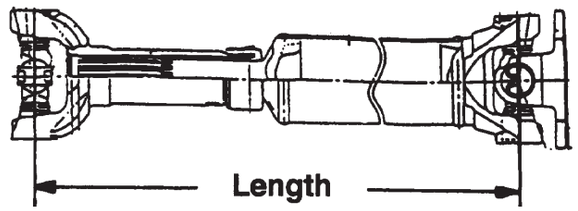
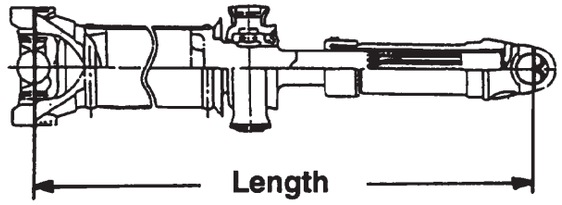
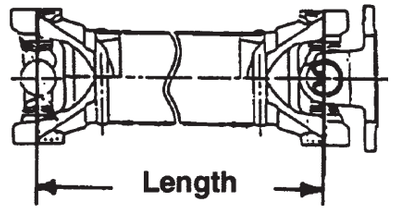


1. UNIVERSAL JOINT
2. PROPELLER SHAFT
3. CENTER CARRIER BEARING

Wheel Base	Plan View		Side View	
	A Auto. Trans.	B Auto. Trans.	C Auto. Trans.	D Auto. Trans.
109 in.	—	3.5°	—	6.4°
132.5 in.	2.1°	0°	1.5°	2.4°
150 in.	0°	2.7°	0.7°	5.3°
176 in.	0°	1.8°	4.0°	6.0°

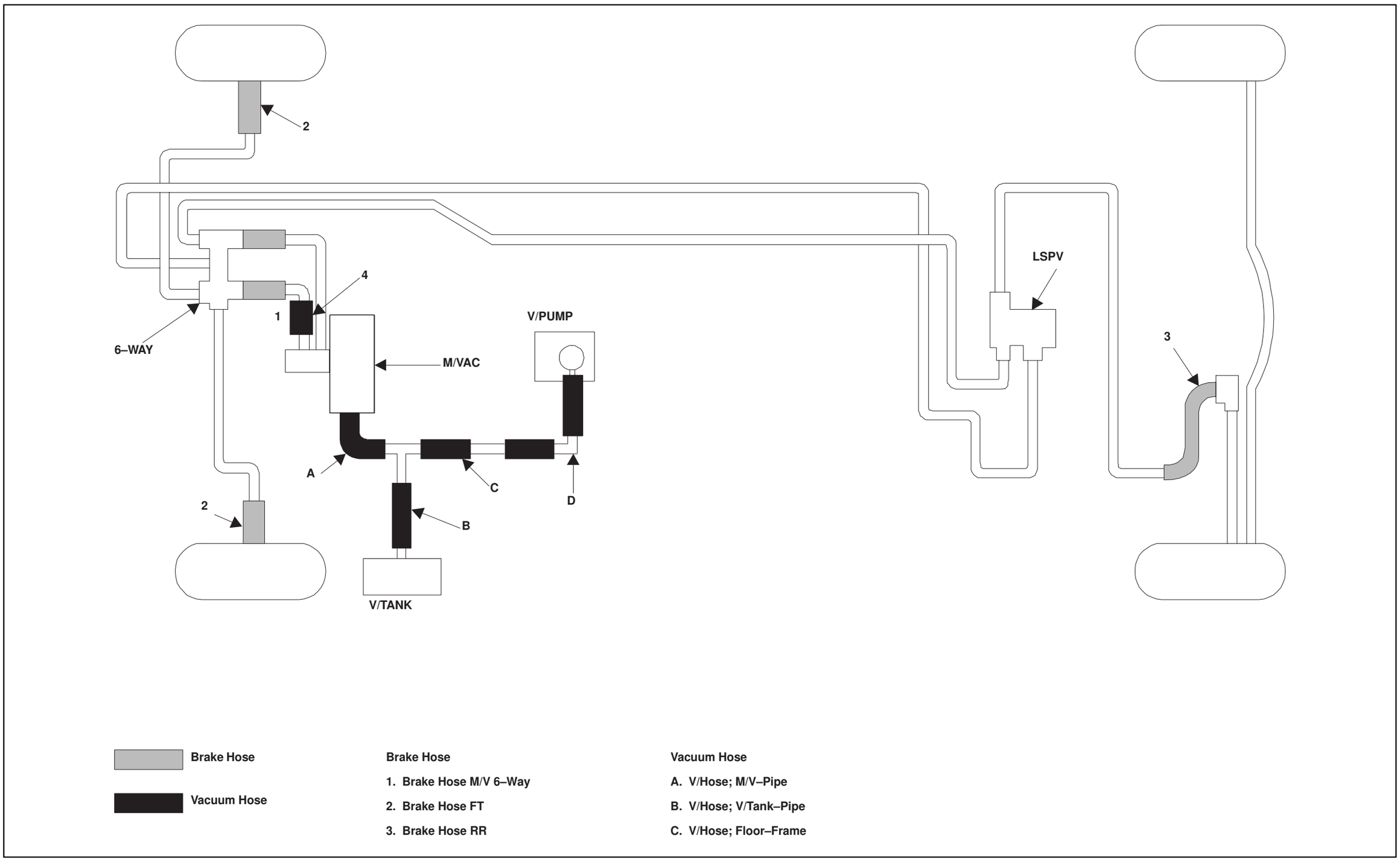
NOTE: All driveline angles are at unloaded condition (Curb position with typical cargo body).

Wheel Base	109	132.5	150	176
No. of Shafts	1	2	2	2
Trans. Type	Automatic Transmission	Automatic Transmission	Automatic Transmission	Automatic Transmission
Shaft #1 O.D.	3.0			
Thickness	0.083			
Length	34.05	24.10	41.85	52.1
Type	A	B	B	B
Shaft #2 O.D.	3.0			3.5
Thickness	0.083			
Length	N/A	33.46	33.46	49.2
Type	N/A	C	C	C

Type	Description	Illustration
Type A	1st shaft in 1 piece driveline	
Type B	1st shaft in 2 piece driveline	
Type C	2nd shaft in 2 piece driveline	

BRAKE SYSTEM SCHEMATIC

Vacuum Over Hydraulic



Brake Hose

Vacuum Hose

Brake Hose

1. Brake Hose M/V 6–Way
2. Brake Hose FT
3. Brake Hose RR

Vacuum Hose

A. V/Hose; M/V–Pipe

B. V/Hose; V/Tank–Pipe

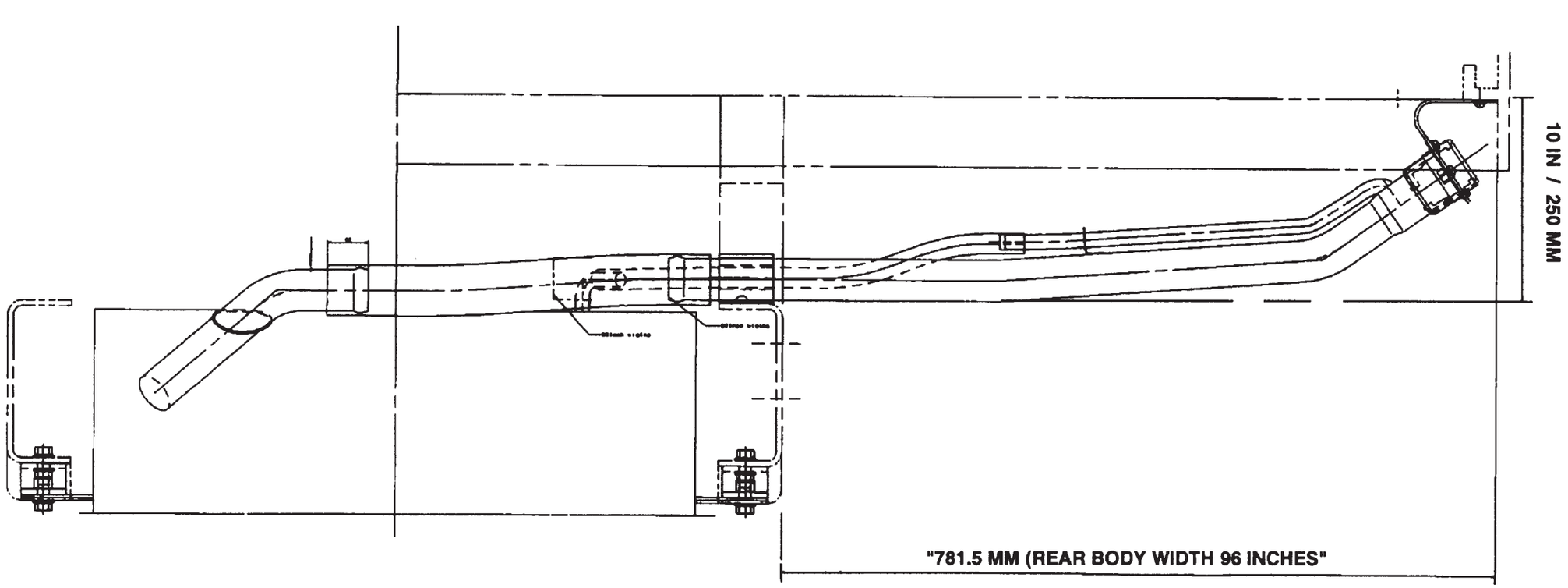
C. V/Hose; Floor–Frame

1999 MODEL GASOLINE FUEL FILLER

Installation Instructions (Revised)

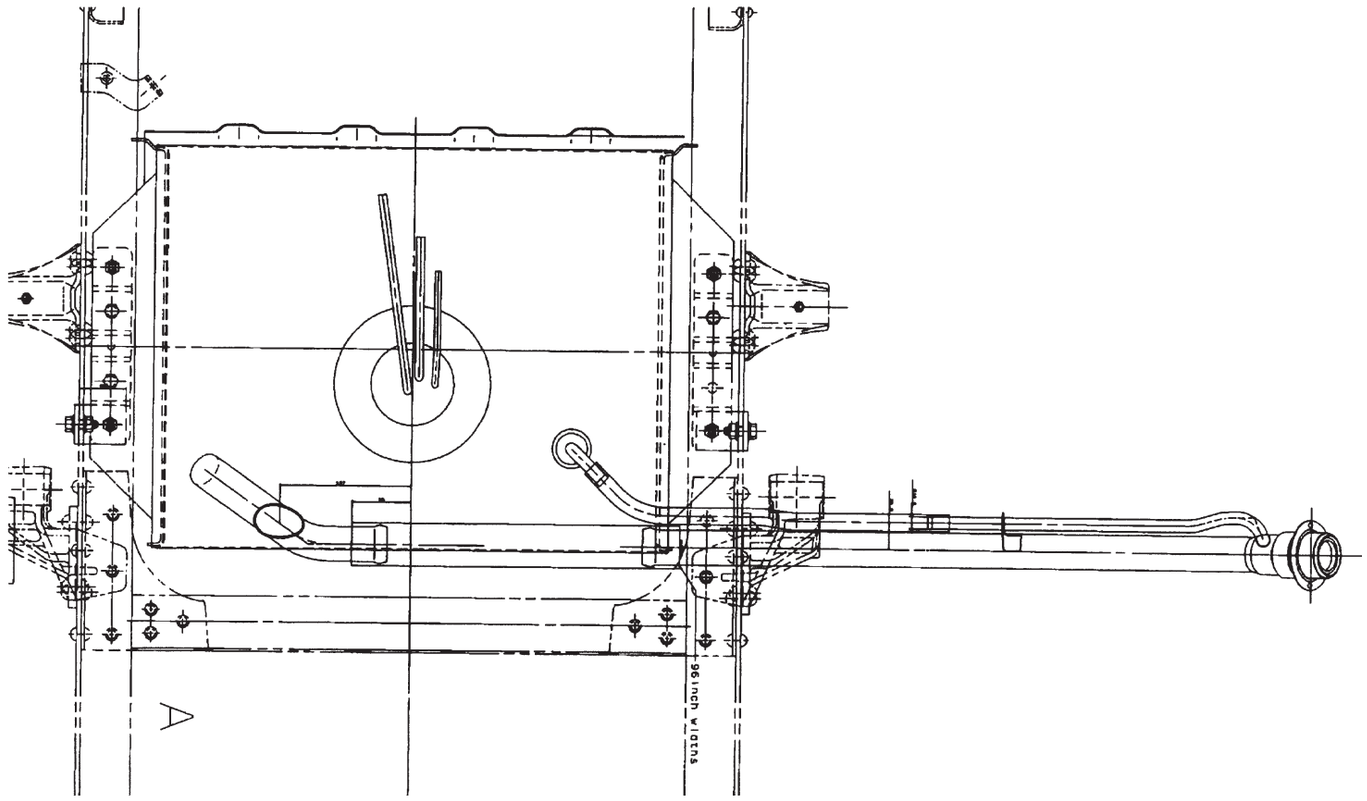
1. Disconnect Battery.
2. Loosen hose from tie downs.
3. Remove replacement hoses from cab and install in place of original hoses. Discard old hoses.
4. Place 2" rubber block on frame with hoses inserted through the block to determine minimum thickness of wood filler to be used.
5. Extend hose out from passenger side of rail to body rail. The filler neck must be mounted at 35° from the frame horizontal. See drawing #A and #B. Filler hose is set for 96 inch outside width body. Minimum floor height is 250 mm from rail to floor.
6. Secure the filler plate to the bottom of the body.
7. Check for leaks.
8. Reconnect battery.

Gas Filler Neck Installation (Rear View) 96" Wide Body



Gas Filler Neck Installation (Top View) 96” Wide Body

Gas Filler Neck Installation (Top View) 96” Wide Body



Body Width	Cut Hose
90 inch Body	Remove 3 inches
86 inch Body	Remove 5 inches
80 inch Body	Remove 8 inches